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# Proposal Analysis

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## Topics for Discussion

- Pricing Policy
- Price Analysis
- Cost Analysis
- Key Players
- Miscellaneous Analysis Methods
  - TINA

## References

- FAR Sub-part 15.4

➤ <http://farsite.hill.af.mil/vffara.htm>

- CPRG, Volume 1, Chapter 1:

<https://acc.dau.mil/CommunityBrowser.aspx?id=379437>

- CON 170: Fundamentals of Cost and Price Analysis

➤ [http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs\\_id=1836](http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs_id=1836)

# Contract Pricing Reference Guides (The “CPRG”)

## Volume 2

Quantitative  
Techniques  
for Contract  
Pricing

## Volume 3

Cost  
Analysis

## Volume 4

Advanced  
Issues in  
Contract  
Pricing

## Volume 1

Price  
Analysis

## Volume 5

Federal  
Contract  
Negotiation  
Techniques



# Contract Pricing Reference Guides & FAR

- Price Analysis:
  - CPRG Volume 1
  - Explanations, illustrations, case law
  - FAR 15.404-1(b)
- Cost Analysis
  - CPRG Volume 3
  - Explanation, illustrations, case law
  - FAR 15.404-1(c)
- Cost Realism Analysis
  - CPRG Volume 4, Chapter 8
  - Explanation, illustration, case law
  - FAR 15.404-1(d)

# Pricing Policy - FAR 15.402



## Government Price Objective

**Purchase From  
Responsible  
Sources At Fair &  
Reasonable Prices**

**Price Each  
Contract Separately  
& Independently**

**Exclude  
Contingencies**



## Price Must Be “Fair & Reasonable”

- What is price?
  - Price = cost + profit or fee
- Contracting Officer (CO) must
  - Determine price is fair & reasonable prices
  - Price each contract separately
  - Not include any amount for a contingency
- What is a “fair & reasonable” price?
  - Fair to both parties
  - Too high or too low
  - To a prudent & competent buyer

## Determining Fair & Reasonable

- “Fair and Reasonable Price” is not defined by FAR
  - Reflects fair market value or total allowable cost of performance by a well-managed, responsible contractor plus reasonable profit
  - Realistic in contractor's ability to satisfy terms
  - Price that a prudent buyer would pay considering market conditions, requirements alternatives and non-price factors
  - Requires a great deal of judgment of the data or resources obtained by the CO
  - FAR 31.201-3: A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person in the conduct of a competitive business



# Proposal Analysis Techniques

## FAR 15.404-1

- The process for determining proposed prices to be fair and reasonable is “Proposal Analysis”
- Proposal analysis objective: ensure the final agreed to price is fair and reasonable
- Proposal analysis techniques include:
  - Price analysis (FAR 15.404-1(b))
  - Cost analysis (FAR 15.404-1(c))
  - Cost realism analysis (FAR 15.404-1(d))
  - Technical analysis (FAR 15.404-1(e))
  - Unit pricing (FAR 15.404-1(f))
  - Unbalanced pricing (FAR 15.404-1(g))



**Focus of this course is Price Analysis and Cost Analysis**

# ***Price Analysis***

## Price Analysis - FAR 15.404-1(b)

- Definition: the process of examining and evaluating a proposed price without evaluating its separate cost elements and proposed profit
- Essentially, comparing “bottom line” proposed prices
- Applicable: when Certified Cost or Pricing Data is not required by TINA (per FAR 15.402(a)(2) and 15.404-1(a)(2))

## Bases for Price Analysis

- Other proposed prices
- Commercial prices
- Previously proposed prices & contract prices
- Parametric & rough yardsticks
- Independent Government Estimates (IGE's)



## Price Analysis Techniques - FAR 15.404-1(b)(2) and (b)(3)

- Comparison of prices received in response to the solicitation
  - Comparison of previously proposed prices with current proposed prices for the same or similar items
  - Parametric estimating methods
  - Comparison with competitive published price
  - Comparison with independent Government cost estimates
  - Comparison with prices obtained through market research
  - Analysis of pricing information provided by the offeror
- Preferred Techniques**

Normally, adequate price competition establishes a fair and reasonable price (b)(2)(i)

## Price Analysis Example - FAR 15.404-1(a)(2) and (b)

Material	20,000
Material Overhead (10% × \$20,000)	+ 2,000
Direct Engineering Labor (1,000 hrs × \$80/hr)	+ 80,000
Engineering Overhead Rate (125% × \$80,000)	+ 100,000
Other Direct Cost	+ 10,000
Sub-Total Cost	\$212,000
General & Administrative (3% × \$212,000)	+ 6,360
Total Contract Cost	\$218,360
Profit (15%)	+ 32,754
Contract Price	\$251,114

### Price Analysis

Offeror's proposed  
unit or total price



## Comparison Process

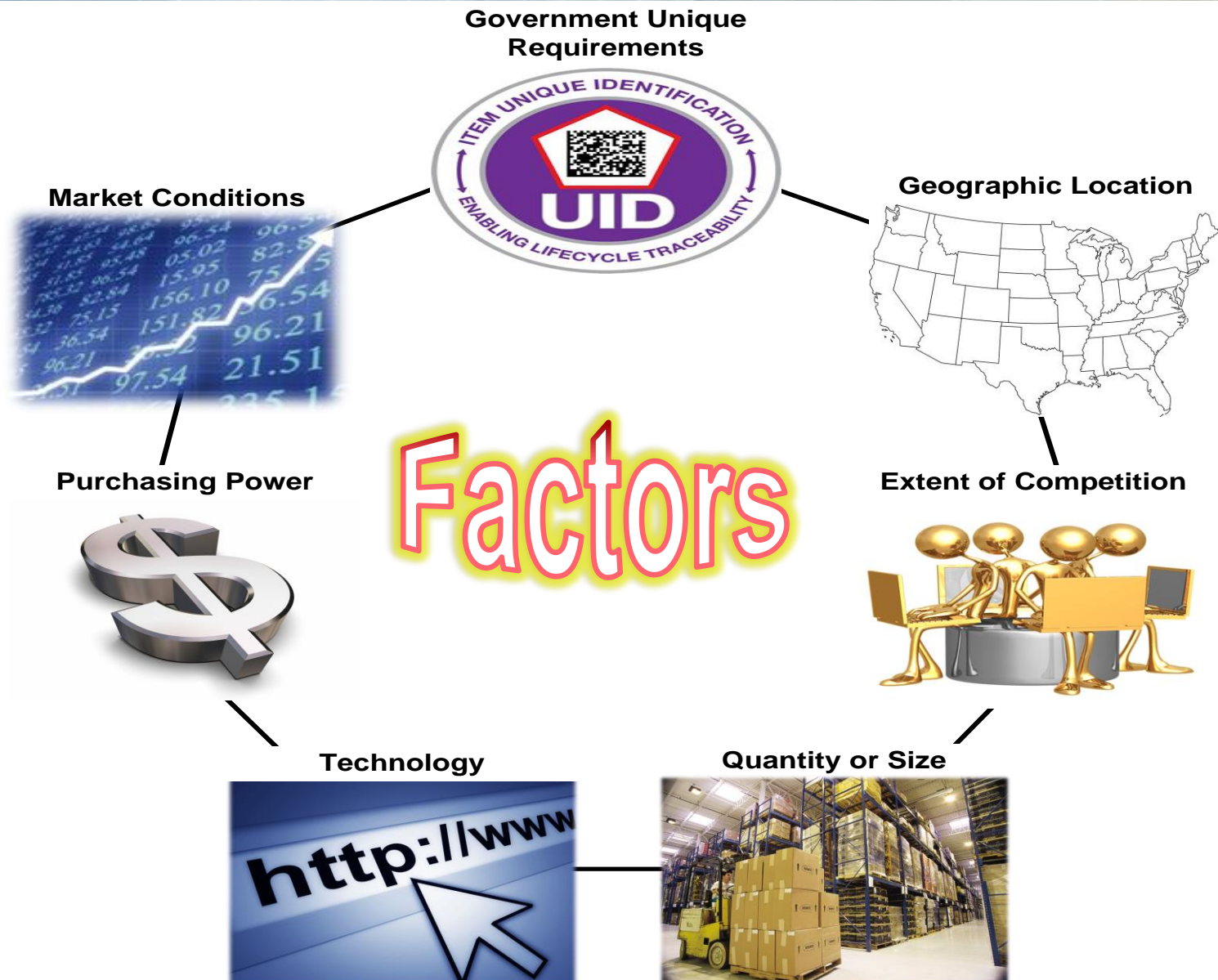
**Select prices for comparison**

**Identify factors that affect comparability**

**Determine the potential impact of these factors on prices selected for comparison**

**Adjust prices selected for comparison**

**Compare adjusted prices to the offer in line for award**



## Other Proposed Prices

- Competing independently for contract award
- Meets Government requirements
- Award based on low price or greatest value
- Price not found to be unreasonable



## Historical Prices

- Has the product/service been purchased before?
- What was the historical price?
- Was the historical price fair & reasonable?
- Is the comparison valid?





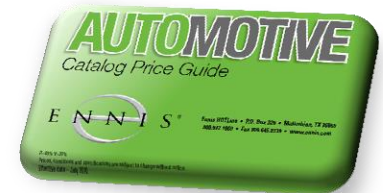
## Parametric, Rough Yardstick Estimating

- Typically expressed as “CERs”: ratios for an independent variable of a requirement to a dependent variable
- Enables estimating of prices for similar items based on the relationship of past prices with one or more product characteristics
- Common examples:
  - Dollars per square foot
  - Dollars per horsepower
  - Dollars per pound
  - Dollars per hour, day, month



# Competitive Price Lists, Market Prices, Indexes, and Other Discounts

- Competitive, published price lists
  - Federal Supply Schedules
  - Blanket Purchase Agreements
  - Catalogs
- Published market prices from investment firms, banks, stock exchanges
- Indexes for the same or similar items
  - Department of Labor
  - Commercial sources
- Discounts and rebate arrangements



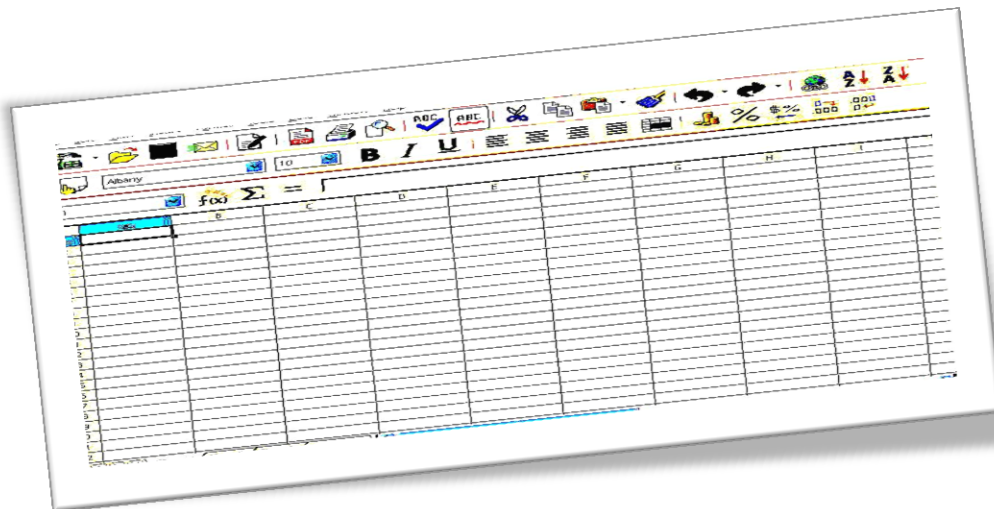


## Situations for Using Index Numbers

- Inflate or deflate prices or costs for comparison
- Inflate or deflate prices or costs to facilitate trend analysis
- Estimate project price or cost over the period of contract performance
- Adjust contract price or cost for inflation or deflation

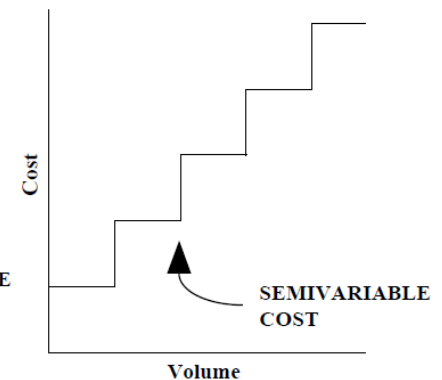
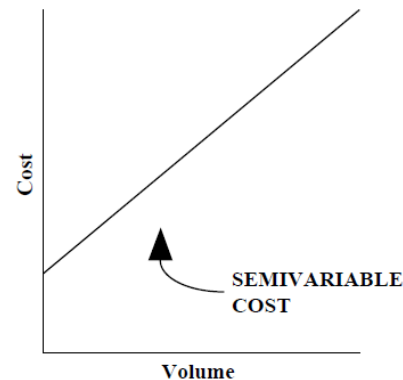
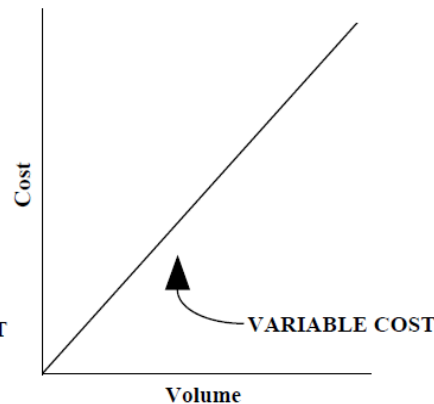
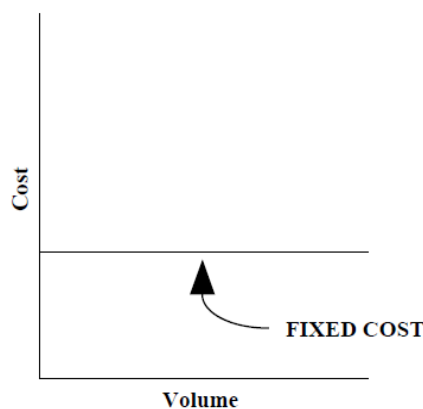
## Independent Government Estimates

- How was the estimate made?
- What assumptions were made?
- What information and tools were used?
- Where was the information obtained?
- How did previous estimates compare with prices paid?



# Price Analysis of Market Research Data

- Analyzing prices from market research can reveal much about contractors costs.
- Remember:  $\text{Price} = \text{Total Cost} + \text{Profit}$   
and  $\text{Total Costs} = \text{Fixed Costs} + \text{Variable Costs}$
- Cost-volume analysis can be used as a price analysis technique to reveal the contractors fixed costs, total costs, and capacity



# Cost Analysis

## Cost Analysis - FAR 15.404-1(c)

- Definition: the review and evaluation of any separate cost elements and profit or fee in an offeror's proposal, as needed to determine fair and reasonable
- Also used to determine price or cost realism, how well the proposed costs represent what the cost of the contract should be, assuming reasonable economy and efficiency
- Applicable: when Certified Cost or Pricing Data is required by TINA (per FAR 15.402(a)(1) and 15.404-1(a)(3))

## Applications for Cost Analysis - FAR 15.404-1(a)



SHALL

When certified cost or pricing data are required

SHOULD

Also perform price analysis in combination with cost analysis to verify that the overall price offered is fair and reasonable.

MAY

To determine F&R or to perform cost realism when price analysis isn't sufficient on "data other than"



# Cost Analysis Techniques FAR 15.404-1(c)(2)

- Verification of cost or pricing data
- Evaluation of cost elements, including:
  - Cost necessity, reasonableness
  - Projection of cost trends based on historical data
  - Bases for estimates, including parametric models, cost estimating relationships
  - Bases for indirect rates, labor rates, cost of money factors
- Evaluation of current practices on future costs
- Comparison of proposed costs to historical data, other current cost estimates
- Proposed costs align with FAR Part 31

Material	20,000
Material OH (10% × \$20,000)	+ 2,000
Direct Eng Labor (1,000 hrs × \$80/hr)	+ 80,000
Eng OH Rate (125% × \$80,000)	+100,000
Other Direct Cost	+ 10,000
Sub-Total Cost	<u>\$212,000</u>
G&A (3% × \$212,000)	+ 6,360
Total Contract Cost	<u>\$218,360</u>
Profit (15%)	+ 32,754
Contract Price	<u>\$251,114</u>

### Cost Analysis

Reasonableness  
of each cost  
element

### Technical Evaluation

Quantity & quality of material, labor hours,  
labor type, & other direct costs

**Cost Analysis Example**  
FAR 15.404-1(a)(3), (4), and (c)

### DCMA/DCAA Evaluation

Labor rate, overhead, & other rates--  
can be tailored to meet needs

### Weighted Guidelines (WGL)

Evaluate profit

# Data other than Certified Cost or Pricing Data

Order of Preference for requesting data:

- Government Data
- Secondary Sources
- Data from the Offeror

**Be specific!  
Only what you absolutely need!**



## General Cost Analysis Process Orchestrated by Contracting Officer

<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Step 6</b>	<b>Step 7</b>	<b>Step 8</b>
Know what you are buying	Get a good proposal	Map the proposal  Model the proposal	Cost analysis with technical analysis	-Document analyses -Establish “fair & reasonable” range	Obtain approval to enter negotiations	Negotiate	Award
		<b>Cost Analysis Process Actions and Outcomes</b>					
Market research -Gov’t cost and price estimates -Anticipate costs, risks	-FAR 15.408, Table 15-2 -Proposal adequacy checklist in DFARS 252.215-7009	-Prepare spreadsheet to mimic proposal as tool to document Steps 4 & 5.	-Evaluation, fact-finding of material, labor, direct and indirect costs -“What’s that based on?” 5 times	-Team performs sensitivity analysis to consider negotiation trade space	-CO and technical specialists present objectives to approval authority	-CO: “Fair & Reasonable” determination	CO obtains Cert (FAR 15.406-2) -Write price negotiation memo (PNM)
			<b>Role of Key Players</b>				
-CO seeks input, documentation from technical specialists	-CO pre-plans upcoming analysis timelines with technical specialists, DCMA, DCAA	-CO, pricer map/model -CO requests technical specialist, DCMA, DCAA support	-CO sets deadlines, reviews draft inputs of technical specialists, DCMA, DCAA reports/ audits	-CO integrates analyses, authors conclusion (FAR 15.406-1)	-CO includes all presentations and outcomes in contract file	-CO leads team discussions, final negotiations	-CO authors, captures team input per FAR, DFARS, PGI 15.406-3 and agency sups

# Call For Support - Cost Analysis

In accomplishing cost analysis, the contracting officer typically requests support from three sources:

1.

Local team or  
agency

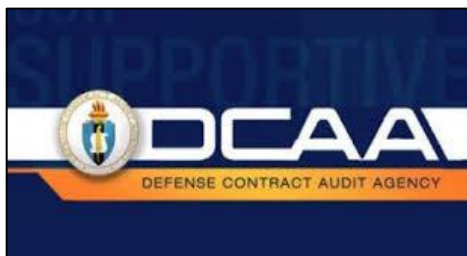
Technical specialists with skills to analyze proposed processes, materials, labor data rights, etc.

2.



DCMA: people with specialized skills in contracting, engineering, quality assurance, contractor costs, business forecasting

3.



DCAA: primarily people with training and experience auditing a wide range of activities



# Key Players and Business Systems



## DCAA Responsibilities

- “The” audit agency for DoD, established by DoD Comptroller
  - FAR 42.101, DoDI 5105.36: Performs all necessary contract audits for the DoD, and provides financial advisory services regarding contracts and subcontracts to all DoD components--in connection with negotiation, administration, and settlement of contracts and subcontracts.
  - Conducts audits in accordance with Generally Acceptable Government Audit Standards (GAO’s “Yellow Book” <http://www.gao.gov/yellowbook>),
  - *DFARS PGI 215.404-2(c): Contracting officer should request audit assistance from DCAA for prime contracts or subcontracts for.*
  - Fixed-price proposals exceeding \$10 million;
  - Cost-type proposals exceeding \$100 million.



## DCAA Responsibilities

- Routinely serves as the authorized representative of the contracting officer to audit, examine contractor records (FAR 52.215-2(b))
  - Preaward audits for proposals, major modifications
  - Postaward audits
  - Preaward surveys--generally only when requested by DCMA (DFARS PGI 209.106-2)
- Note: GAO (Headed by Comptroller General) also has authority to access, audit contractor records (FAR 52.215-2(d))
- Also provides negotiation assistance:
  - Fact-finding
  - Contractor information analysis
  - Support to DCMA's analysis (DFARS PGI 215.404-2(c))

# DCMA



- Visit [www.dcma.mil](http://www.dcma.mil)...
- Select a region under the *ABOUT US* menu heading to get a feel for DCMA's geographic footprint.
- Play the DCMA video found at:  
[http://static.dvidshub.net/media/video/1606/DOD\\_103402691/DOD\\_103402691-1280x720-2765k.mp4](http://static.dvidshub.net/media/video/1606/DOD_103402691/DOD_103402691-1280x720-2765k.mp4)

## DCMA Responsibilities - Pre-award, Post-award

- Performs the entire range of contract administration services (FAR 42)
  - Majority of administration services must be delegated from PCO
  - FAR restricts some functions specifically to ACO (FAR 42.302(a))
  - Cognizant Federal Agency Official authority established in CAS Administration legislation (FAR 42.302(a), and (a)(11))
- Pre-award Surveys (DFARS PGI 209.106)
  - Financial Capability (Responsibility) Determinations
  - Accounting system review (if needed, may engage DCAA)
- Negotiation of Direct and Indirect Cost Rates
  - Forward Pricing Rate Agreements (FPRA), and Forward Pricing Rate Recommendations (FPRR) (FAR 42.302(a)(5); DFARS 215.407-3(b))
  - Final Rate Determinations for contract closeout of flexibly priced contracts (FAR 42.302 (a)(9); DFARS 242.705)
  - Interim Billing Rates (FAR 42.302(a)(9), 42.704, same authority as for Final Rate Determination)

## DCMA Responsibilities - Ongoing, Pre Award, & Post Award

- Other DCMA responsibilities (See FAR part 42)
  - Property Management and Plant Clearance Services
  - Small Business Support
  - Contract Termination Services
  - Quality Assurance Services
  - Contract Safety Services
  - Transportation Services
  - Engineering and Manufacturing Support (DCMA Instruction 204)
  - Major Program Support
  - Supply Chain Support
  - Industrial Base Analysis Services (DCMA Instruction 401)
  - Aircraft Operations Services (DCMA Instruction 8210-2)
- Support through the Cost & Pricing Center as well as Cost Monitors and Price Analysts disbursed throughout the Regions



## DCMA Responsibilities - Pre-award, Post-award

Contractor Business Systems Review (DCMA-INST 131, Dec 2015, implementing PL 111-383, Sec 893), Chapter 1, para 1.1:

- It is DCMA policy that, “The appropriate corporate administrative contracting officer (CACO), divisional administrative contracting officer (DACO), or administrative contracting officer (ACO), in conjunction with the functional specialist or auditor shall determine acceptability of Contractor Business Systems in accordance with DFARS business system criteria, and approve or disapprove the contractor’s business system.”

There are consequences for a disapproved business system. Let’s look at DFARS 252.242-7005



# DCMA Responsibilities - Pre-award, Post-award

Per PL 111-383, DFARS 242.7001, and the DCMA-INST 131, the “Contractor Business Systems” are as follows:

- Accounting System
- Earned Value Management System (EVMS)
- Estimating System
- Material Management and Accounting System (MMAS)
- Property Management System
- Purchasing System

# Contractor Business Systems

“Acceptable contractor business systems” means contractor business systems that comply with the terms and conditions of the applicable business system clauses.

- (1) Accounting system - DFARS [252.242-7006](#)
- (2) Earned value management system - DFARS [252.234-7002](#)
- (3) Estimating system - DFARS [252.215-7002](#)
- (4) Material management and accounting system -  
DFARS [252.242-7004](#)
- (5) Property management system - DFARS [252.245-7003](#)
- (6) Purchasing system - DFARS [252.244-7001](#)

## When do we use Cost Analysis, or Price Analysis?

Is Certified Cost or  
Pricing Data  
Required?  
(Based upon TINA)



Yes

Cost Analysis shall  
be used  
FAR 15.404-1(a)(3)

No

Price Analysis shall  
be used  
FAR 15.404-1(a)(2)

## When are Price and Cost Analysis Used Together?

- FAR 15.403-4: When certified cost or pricing data are required
  - Cost analysis shall be used; and,
  - Price analysis **should** be used to ensure overall price is fair and reasonable.
- FAR 15.404-1(a)(4): When certified cost or pricing data are not required
  - Price analysis shall be used; and,
  - Cost analysis **may** also be used to evaluate data to determine cost reasonableness or cost realism when a fair & reasonable price cannot be determined through price analysis alone for commercial or non-commercial items



# Miscellaneous Analysis Methods



## Cost Realism Analysis - FAR 15.404-1(d)

- Definition: the process of independently reviewing and evaluating specific elements of a cost estimate to determine whether the estimated cost elements are:
  - Realistic for the work to be performed
  - Reflects a clear understanding of the requirement
  - Is consistent with the approach outlined in the contractor's proposal
- Purpose is to determine most probable cost
- Applicable:
  - Shall be used for cost-reimbursement type contracts;
  - May be used on competitive, fixed-price incentive, and other fixed-price contracts when uncertainties are significant



## Technical Analysis

- Definition: accomplished by personnel with specialized knowledge to analyze the need and reasonableness of proposed elements, including:
  - Types & quantities of material
  - Types, quantities, mix of labor hours
  - Pertinent technical aspects
  - Processes, special tooling, equipment
  - Real property, scrap and/or spoilage
- Requested by Contracting Officer
- Applicable: as needed to determine reasonableness of proposal

## Unit Price Analysis - FAR 15.404-1(f)

- Definition: Except when pricing an item on the basis of adequate price competition or catalog or market price, unit prices shall reflect the intrinsic value of an item or service and shall be in proportion to an item's base cost (e.g., manufacturing or acquisition costs).
- Applicable: Except for the acquisition of commercial items, contracting officers shall require that offerors identify in their proposals those items of supply that they will not manufacture or to which they will not contribute significant value, unless adequate price competition is expected

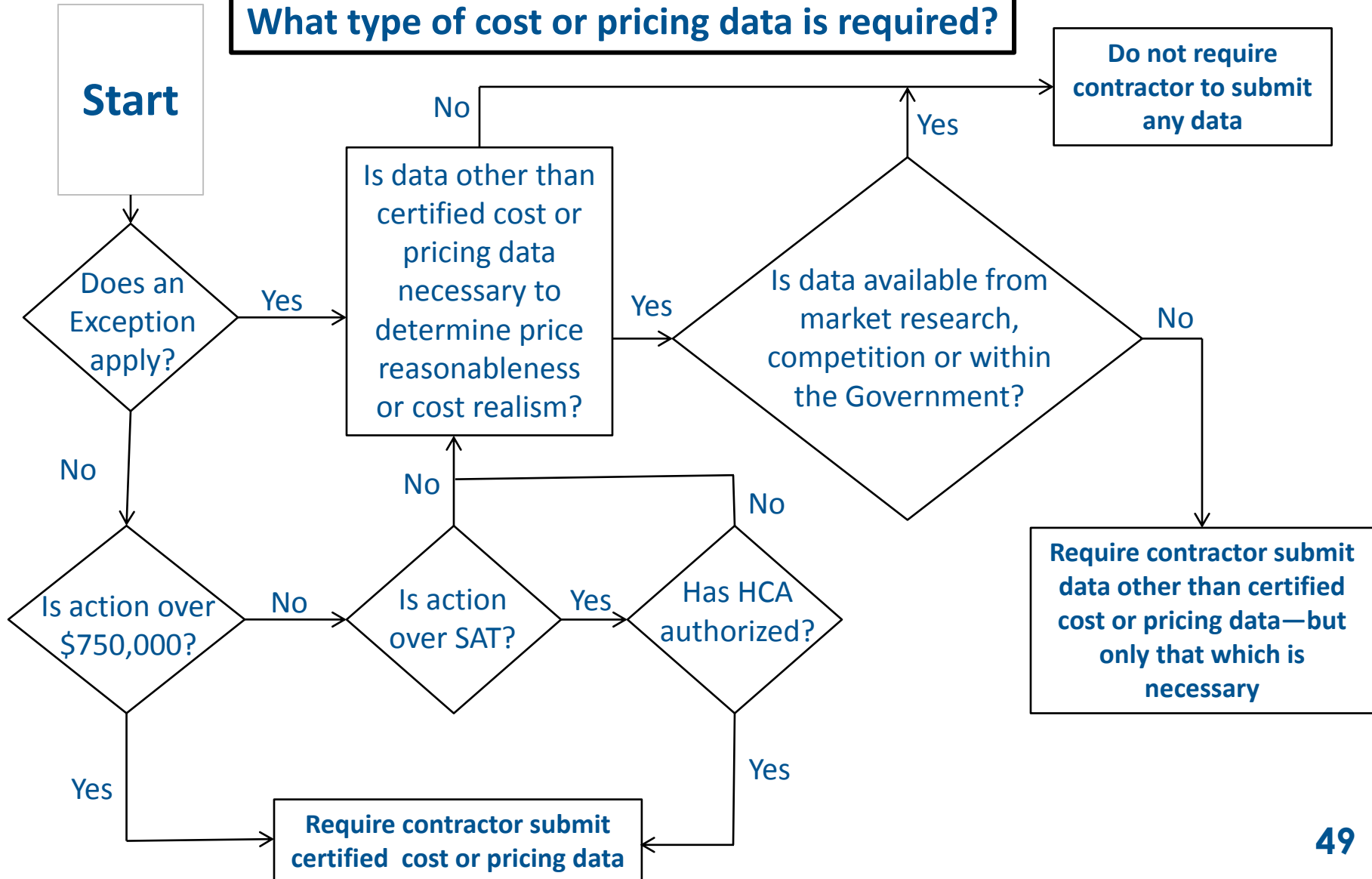
## Unbalanced Pricing - FAR 15.404-1(g)

- Definition: exists when the overall price appears to be reasonable; however, cost or price analysis indicates the price of one or more contract line items is significantly over or understated.
- Be cautious when:
  - Start-up/mobilization costs appear to be high
  - Base year is priced significantly higher, with options priced significantly lower
  - IDIQ contract items: high-order items priced a bit higher, while low-order items priced much lower

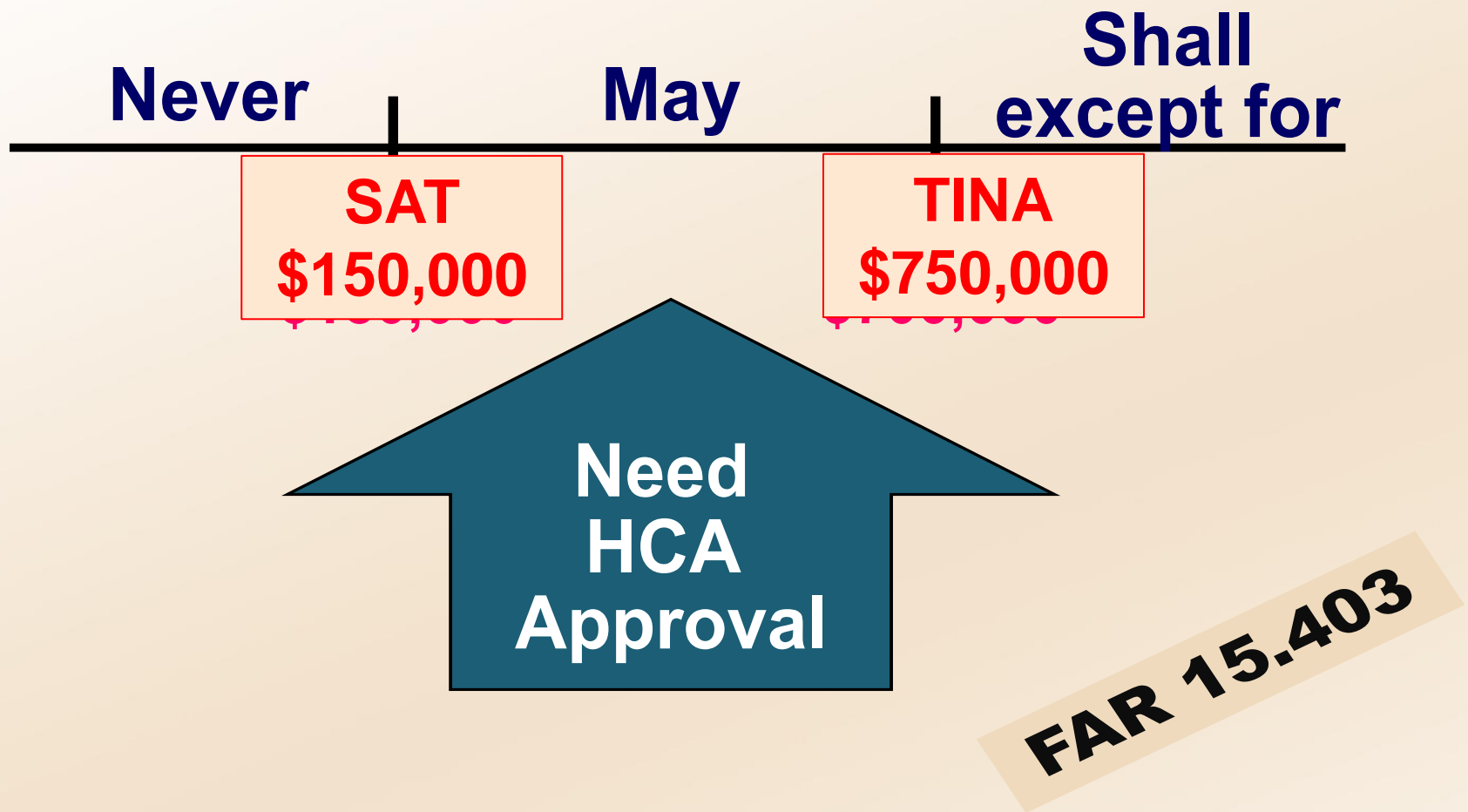
# Proposal Analysis vs. Proposal Evaluation

- Proposal analysis (FAR 15.404)
  - Reviewed several techniques in this lesson
  - Purpose: determine a price to be fair, reasonable, and realistic
- Proposal evaluation (FAR 15.305)
  - Used with respect to source selections (FAR 15.3)
  - An assessment of an offeror's ability to perform the prospective contract successfully
  - Purpose: evaluate a proposal's relative qualities solely with respect to evaluation criteria in a solicitation

CON 170 focuses on proposal analysis techniques of cost and price analysis

**What type of cost or pricing data is required?**

TINA: When to get certified cost or pricing data:





## FAR 15.403-1: Shall Not Obtain Certified Cost or Pricing Data When:

**Prohibitions:** (a) & (b) Certified cost or pricing data shall not be obtained for acquisitions at or below the simplified acquisition threshold, or when an exception applies.

**Exceptions:** (b) When the contracting officer determines:

- prices agreed upon are based on adequate price competition
- prices agreed upon are based on prices set by law or regulation
- a commercial item is being acquired
- when a waiver has been granted
- When modifying a contract or subcontract for commercial items

# Summary

- Recognize the definition and purpose of price, cost and cost realism analysis
- All analysis methods require a good understanding of direct and indirect costs
- The process of cost and cost realism analysis requires key players with different roles:
  - Contracting Officer
  - Technical specialists
  - DCAA
  - DCMA
- TINA – certified cost or pricing data use cost analysis, other than certified cost or pricing data use price analysis, cost reimbursement efforts must use cost realism analysis.

# Questions

